

Table 26 (Continued)
 Area and Description of NWI Mapped Wetlands and Deepwater Habitat
 Within the Project Study Area

| Wetland Classification | Area acres (hectares) | Description |
|------------------------|-----------------------|---|
| L1UBHh | 10,231.6 (4,140.4) | Lacustrine, limnetic, unconsolidated bottom, permanently flooded, impounded |
| L2USAh | 4.3 (1.8) | Lacustrine, littoral, unconsolidated shore, temporarily flooded, impounded |
| L2USCh | 0.4 (0.2) | Lacustrine, littoral, unconsolidated shore, seasonally flooded, impounded |

Three different systems are present in the study area: lacustrine, riverine, and palustrine. The largest deepwater habitat within the study area is classified as lacustrine with limnetic waters (greater than 6.6 feet [2.0 m] deep) and an unconsolidated bottom that is permanently flooded due to impoundment (L1UBHh). This system refers to the open waters of Fontana Lake and is mapped as 10,231.6 acres (4,140.4 ha). The segment of the Tuckasegee River immediately upstream of Fontana Lake was mapped as 60.7 acres (24.5 ha) of riverine wetland (R3UBH). The combination of 28 small mapped wetland areas equals the 17.2 acres (6.9 ha) of palustrine wetland that have been impounded (PUBHh). These wetlands, most likely agricultural irrigation ponds, are located within the southern portion of the project area. The combined area of the remaining 13 wetlands, which are scattered throughout the study area, is 23.4 acres (9.5 ha). These 13 wetlands are primarily shrubby or forested areas that are temporarily flooded. As noted above, NWI maps are not field verified and tend to omit drier type or forested wetlands. On-the-ground surveys for wetlands will be conducted once the study alternatives have been developed.

3.7.4 Navigable Waters

According to the Asheville Field Office of the USACE, the Little Tennessee River and Fontana Lake are the only navigable waters in the project study area.

3.8 Floodplains

The Federal Emergency Management Agency (FEMA), in cooperation with state and local governments, has developed flood boundary and flood insurance mapping for a large portion of North Carolina as part of the National Flood Insurance Program (NFIP). The NFIP defines a floodplain as any land area susceptible to being inundated by water. The floodplain is divided into two sections, the floodway and floodway fringe. The floodway is defined as the channel of the stream and adjacent floodplain area that should be kept free of encroachment so that a 100-year flood event may occur without increasing the level and extent of the base flood elevations. The base, or 100-year, flood is defined as an event that is equaled or exceeded, on average, once every 100 years. The floodway fringe, or the 100-year

floodplain, is the area between the floodway boundary and the 100-year floodplain boundary (FEMA 2001).

In NFIP regular program communities, FEMA, in cooperation with other federal agencies and state and local governments, conducts detailed flood studies to determine designated floodways to safely remove floodwater during flood events. These studies result in floodway boundaries, which are illustrated on Flood Insurance Rate Maps. The information obtained through these studies is utilized by local jurisdictions in their land development ordinances and regulations to discourage development in flood-prone areas. Approximate analyses were performed for those areas in which the potential for development is low (FEMA 1983). These low development potential areas include GSMNP. For these areas, floodplain mapping is not expected to be precise or include all flood-prone areas. However, more detailed information will be obtained in the EIS process, which will include a hydraulic study. The FEMA maps that cover the project study area include panel numbers 0075 C, 0100 C, 0125 C, 0138 C, 0139 C, 0200 C, 0202 C, 0206 C, 0207 C, and 0225 C of community map number 370227 for Swain County (revised December 15, 1989), map 370228 0005 B for Bryson City (effective December 4, 1984), and panel numbers 0025 B and 0050 B for community map 370105 for Graham County (effective July 17, 1986). Based on FEMA mapping for the project study area, the extent of floodplains is limited to second order or greater tributaries, primarily along the southern side of Fontana Lake. General topography in this region is steep, and most stream valleys are confined so that the extent of floodplain is limited. Those streams with larger watersheds and broad valleys are more susceptible to flooding during major precipitation events. Figure 15 illustrates the extent of FEMA mapped floodplains in the project study area.

Executive Order 11988, Floodplain Management, directs federal agencies “. . . to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative” (EO 1977). Development of floodplains within GSMNP is protected and monitored under DO #77-2: Floodplain Management, which is scheduled to be released in final form in 2003 (NPS 2003c). Development of floodplains within the national forest is protected and monitored under the Forest Service Manual Section 2500: Watershed and Air Management.

3.9 Biological Resources

3.9.1 Vegetative Communities

The study area encompasses approximately 120,000 acres (48,564 ha). Due to the immensity of the study area, the subsequent plant community discussion is based on land cover data that was obtained from the following three sources: GSMNP, the USFS, and the North Carolina